

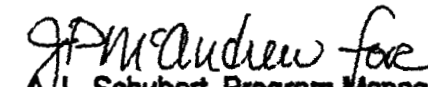
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EPA, Headquarters and DOE, Headquarters have both been involved in the Notice of Proposed Rulemaking (NPRM) for TSCA in which CERCLA and RCRA guidance are being proposed for the remediation of PCB wastes. Based on this, changes under TSCA PCB remediation will most likely have to follow the processes for CERCLA and RCRA. Therefore, Waste Regulatory Programs (WRP) is considering this approach for the development of cleanup criteria of the 20 Potential Areas of Concern (PACs) with PCB contamination. Remedial alternatives will be evaluated based on the regulatory requirements addressing PCBs. Therefore, the enclosed program plan has been developed and is being submitted for your review and comment.

If you have any questions or require further information, please contact Rick Bauma at extension 5565 or digital pager 7644.


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Enclosure
As Stated

1 0 REGULATORY REQUIREMENTS/ARARS

1 1 CERCLA/National Contingency Plan (NCP)

The NCP implements the CERCLA evaluation criteria and provides the basis for attaining ARARs and "to be considered" (TBC) information for determining cleanup criteria. NCP criteria includes

- overall protection of human health and the environment [CERCLA 121(b)(1)],
- compliance with ARARs [CERCLA 121(d)(2)]
- long term effectiveness and permanence
 - reduction of toxicity, mobility or volume through treatment
- short term effectiveness
- implementability
 - cost
 - EPA Region VIII acceptance,
 - community acceptance

1 2 RCRA

- outlines closure requirements for hazardous waste landfills [40 CFR 264.310], establishes land disposal restrictions for liquid hazardous wastes that contain PCBs at 50 ppm or greater or non-liquid hazardous wastes that contain HOCs (including PCBs) at concentrations greater than 1000 ppm [40 CFR 268.32],
- provides for a treatability variance [40 CFR 268.44] that may be used for PCBs in CERCLA soil and debris (Superfund treatability variance guidance - PCB concentrations should be reduced to 1-10 ppm for initial concentrations above 100 ppm, above 100 ppm treatment should achieve 90-99% reduction of PCBs, consistent with Superfund expectations for treatment)

1 3 TSCA

- regulates PCBs at concentrations of 50 ppm or greater [40 CFR 761],
 - PCB management options include incineration, high temperature boiler, alternate technologies that achieve a level of performance equivalent to incineration and chemical waste landfill,
- establishes a PCB spill policy [40 CFR 761.120] that defines the level of cleanup for recent small volume spills. The Superfund approach is consistent with this policy.

1 4 Clean Water Act (CWA)

establishes requirements and discharge limits for activities that affect surface water [Water Quality Criteria (WQC) for chronic exposure through drinking water and fish ingestion]

1 5 Safe Drinking Water Act (SDWA)

establishes maximum contaminant levels (MCLs) and maximum contaminant level goals (MCLGs) for drinking water [40 CFR 141],
proposed MCL for PCBs = 5 ppb
MCLG for PCBs = 0 ppb

2 0 DATA NEEDS

2 1 PCB Characteristics/Aroclors

Aroclors 1016, 1221, 1232, 1242, 1248, 1254, and 1260 are TBC as potential contaminants for each site,

Exempt from Classification
per CLW-061-94 WRP Only

- Site characterization will be based on existing data from the Historical Release Report, and the Assessment of Known, Suspect, and Potential Environmental Releases of PCBs,
- Evaluation of historical data specific to each site will determine if additional pre-cleanup analysis is necessary,
- Sampling and analysis for PCBs will use EPA approved methods. Method 8080 will be used at a minimum for final verification analysis

3.0 PRELIMINARY REMEDIATION GOALS

3.1 TSCA anti-dilution vs CERCLA response actions

- TSCA anti-dilution states that the remediation to take place must be managed for storage and disposal as the original concentration of the PCBs which were released. For the purposes of EPA CERCLA responses, the generation of wastes from remediation activities are to be managed for storage and disposal at the concentrations of PCBs as found in the soils.
- Since these sites are being cleaned up and managed under TSCA regulations, the anti-dilution rule for PCBs applies. However, the evaluation and development of cleanup criteria will be specific to each site. Therefore the CERCLA response which manages the remediation at the PCB concentrations as found in the soils, may be an appropriate consideration for concurrence from DOE/RFPO and EPA Regions VIII.

3.2 PCB Contaminated Waste Storage for Disposal

- RFETS currently has one TSCA Storage Site which can accommodate many drums of PCB wastes if planned for in advance of their generation. Estimates of PCB waste drums to be generated will be provided prior to the beginning of any site remediation to accommodate PCB waste storage for disposal. Thirty-day PCB waste storage can also be provided at the remediation site prior to transfer to the TSCA Storage area.

3.3 PCB Waste Disposal

- PCB waste disposal will meet the requirements of TSCA at a minimum unless the wastes are also determined to be radioactive low level. PCB wastes determined to be radioactive will be generated and stored for disposal with the concurrence of DOE, RFPO, EPA Region VIII, and/or the Compliance Agreement with EG&G Rocky Flats, DOE RFPO, and EPA Region VIII. Non-Radioactive PCB wastes will be disposed of at EG&G approved disposal facilities, and coordinated through Regulated Waste Operations and the Traffic Department. The disposal method of choice is incineration. Alternatives to incineration are addressed in section 4.0, Remedial Alternatives.

3.4 Preliminary Soils Cleanup Level

- The action level for soils is proposed at 10 ppm PCB. This level of cleanup is consistent with the CERCLA process, and below the requirements of TSCA. If this level of cleanup is achieved, it allows for unrestricted access to the area or site being remediated. This level of cleanup demonstrates a proactive approach to PCB remediation since TSCA regulations are expected to change to reflect the requirements of the CERCLA process for PCB remediation. If during the remediation process, this level cannot be achieved for a given area or site but still meets the cleanup levels in accordance with TSCA, EG&G will request the approval of DOE, RFPO and EPA Region VIII to consider the site as "clean".

3 5 Preliminary Ground Water Cleanup Level

If in fact any cleanup site has contaminated ground water, response actions that return ground water to drinkable levels should be considered. Maximum Contaminant Level Goals (MCLGs) or Maximum Contaminant Levels (MCLs) should be attained in ground water where relevant and appropriate. To date, the 20 Potential Areas of Concern (PACs) for PCB contamination have no known contaminated ground waters. However, ground waters will be addressed in the remediation planning process in the event that PCB contaminated ground waters are found.

3 6 Preliminary Sediment/Surface Water Cleanup Levels

Contaminated sediment and surface water cleanup levels will be based on direct-contact threats or on exposure assumptions specific to the site. The criteria to be considered in establishing these remediation goals are derived from the equilibrium partitioning approach which is consistent with Superfund goals for PCB cleanup.

3 7 Preliminary Concrete and Equipment Cleanup Levels

Cleanup levels for solid surfaces (equipment) will follow the requirements of the PCB Spill Cleanup Policy (40 CFR 761 Subpart G). Concrete which is present on a cleanup site will be removed for disposal if found to be contaminated by standard wipe tests and/or core sampling tests. Action levels for concrete start at 10 ppm measured by core samples and 10 micrograms per 100 square centimeters (10 ug/100cm²) measured by standard commercial wipe tests.

4 0 REMEDIAL ALTERNATIVES

The primary alternatives for a site will involve treatment methods for principal threat materials which include liquid and highly concentrated PCBs and containment of remaining low level or residual materials.

4 1 Treatment Options

Treatment Options to be discussed will include treatment methods as alternatives to incineration. Compliance with TSCA ARARs requires PCBs >50 ppm be incinerated, treated by an equivalent method or disposed of in a chemical waste landfill. Equivalence to incineration is demonstrated when treatment residues contain <2 ppm PCB. If treatment is not equivalent to incineration, compliance with TSCA ARARs must be achieved by implementing long term management controls consistent with chemical waste landfill requirements.

Treatment methods are currently being evaluated to reduce toxicity, mobility, and/or volume.

4 2 Identifying Principal and Low Threat Materials

Principal threat materials are normally materials contaminated to two to three orders of magnitude above the action level. Low threat materials are all other contaminated materials. Each site will include the identification of principal and low threat materials.

RFETS initial action level (10 ppm PCB) would allow for unrestricted access of a site if this level is met. Long term management controls are implemented when residual materials (PCBs >10 ppm) remain on a site.

Exceptions to containment of low threat materials may be warranted at sites which have small volumes of contaminated materials, sensitive environments such as wetlands or floodplains or other conditions which make containment unreliable.

- Containment of principal threat materials may be warranted at sites in which large volumes of contaminated materials are involved where treatment is not practicable, PCBs mixed with other contaminants that make treatment impracticable, and/or highly concentrated PCBs which are inaccessible

4.4 Selection of Remedy

- The remedy selection process for each site will consider the nine evaluation criteria provided on page 1, National Contingency Plan (NCP). Although these sites are not required to meet the Superfund requirements for PCB contaminated sites, the NCP evaluation criteria provides the most complete process for remediation determinations

5.0 PACS EVALUATION FOR REMEDIATION

5.1 PAC 100-607

This site is located in the basement of Building 111. Transformer 111-1 was tested for PCB in 1985. PCB concentrations were reported at 251 ppm PCB of aroclor 1260. Several leaks occurred in 1986, and the unit was repaired and retrofilled in late 1986. Retesting for PCB occurred in January 1987 and PCB concentrations were detected at 7.3 ppm PCB. The transformer was reclassified at this time as non-PCB. The transformer oil was tested again in March of 1987 at which time the PCB concentration had dropped to 5.5 ppm PCB.

During the period from 1985 to after retrofill in 1987, several leaks had occurred from the transformer. Cleanup and transformer repairs were performed for all leaks and documented. Standard wipe samples were taken of the entire area in 1991 to determine the extent of PCB contamination. It was determined that 13 wipe samples were necessary to properly characterize the area. All sample results returned below the laboratory detection limit of 10 micrograms (ug)/100 centimeter² (cm²). The TSCA standard after decontamination is 10 ug/100cm². All samples were reported below 10 ug/100cm² as required by TSCA for indoor solid surfaces. Based on these analyses, the site is considered clean and no further action is required.

PAC 100-608

This site is located outside of building 131 where a transformer leaked. The transformer was installed in the late 1980s and never contained PCB. The transformer leak was repaired and the leak was cleaned up at the time. Due to the fact that this transformer does not contain PCBs, no further action is required for this site.

PAC 300-708

This site is located north of Building 371 within the Protected Area (PA). There are six transformers located within this site, all of which are surrounded by berms. Additionally, there is rock fill in the entire area. These transformers were tested for in 1985 for PCB at which time 4 of the 6 transformers tested greater than 500 ppm PCB, 1 transformer tested at 58 ppm PCB and 1 transformer tested at 20 ppm PCB. Transformer 371-2 (20 ppm PCB) was the only non-PCB transformer. The 5 other transformers 371-1, 371-3, 371-4, 371-5, and 371-6 were all retrofilled in 1987. Post retrofill sampling in June 1987 resulted in PCB levels < 50 ppm PCB at which time the 5 PCB transformers were reclassified as non-PCB. Sampling was again performed in 1992 as part of a site wide transformer analysis program. All 6 transformers were tested at <50 ppm PCB.

Electrical Utilities personnel indicated that these transformers may have leaked oil prior to being retrofilled in 1987. The surrounding area soils were tested in 1991 by use of Chlor-n-soil screening kits. The results from the use of these screening kits are not conclusive since they only provide a quick determination of PCB as either >50 ppm PCB or <50 ppm PCB. Several of the samples were detected at >50 ppm PCB.

RFETS is proposing the following actions for this site

- 1 Perform a hazardous waste determination for the site to ensure PCB is the only contaminant,
- 2 Perform sampling and analysis to determine the extent of PCB contamination in the soils. This will include actual concentration levels by use of EPA method 8080 for sampling and analysis and will determine the boundaries for the contamination area. A sampling and analysis plan will be developed and actual sampling and analysis will use the Midwest Research Institute (MRI) documents 'Field Manual for Grid Sampling of PCB Spill Sites to Verify Cleanup' and 'Verification of PCB Spill Cleanup by Sampling and Analysis'. This activity and the hazardous waste determination activity can be completed in Fiscal Year 1995 (FY 95)
- 3 Determine cleanup levels based on the above analysis and timeframe for actual remediation. At this time, due to the location of this site (inside the PA), and the levels of radioactivity present in the soils, the soils do not meet the criteria for shipment and disposal under the EG&G No Radioactivity Added (NRA) program. However, future plans for the development of the NRA program include conclusive methods of determining non-radioactivity by risk assessment methodologies and establishing background levels for radioactive isotopes. These actions for the NRA program are planned for 1995.

The timeframe for remediation should be deferred to 1996 or 1997. Generated wastes from this site at this time would have to be managed as PCB and radioactively contaminated. Deferring cleanup until 1996/1997 would allow for the NRA program to develop new criteria which may allow these soils to be characterized as non-radioactive. Radioactive PCB waste disposal may also become available by 1996/1997. PCB treatment options are also being developed for RFETS wastes as part of the Compliance Agreement for radioactive PCB wastes. Treatment options could include the treatment of the PCB component of these wastes rendering the waste form as only low level radioactive, and disposable at the Nevada Test Site or Hanford Site.

PAC 300-709

This PAC is located in the Building 334 area where transformer 334-1 is located. This transformer was moved to this location and has not leaked at its current location. The history prior to 1987, of this transformer is not clear. The transformer was tested for PCB in January 1987 and no PCBs were detected. The transformer was tested again in 1992 at < 1 ppm PCB. Soil samples were taken in 1991 of the area surrounding the transformer. Two of the samples reported the presence of PCB below the detection limits and all other samples were reported as no PCB detection. Visual inspections of the transformer show no indications of any leaks. Based on the above information, EG&G is recommending no further action for this site.

PAC 400-800

This site is northeast of Building 443 where transformer 443-1 is located. Transformer 443-1 is situated on a new concrete pad several feet south of its original location where the original pad is still in place. Concrete berming surrounds both pads. According to Electrical Utilities personnel, this transformer is a replacement to the original 443-1 transformer. The current transformer was installed in 1987 containing only mineral oil. There are no signs or any data to substantiate that this transformer has leaked. Soils samples were taken of the ground surrounding this transformer in 1991 with PCB concentrations reported at < 2 ppm PCB.

The original 443-1 transformer was removed and disposed of when it was removed from service in 1987. Prior to its removal, sample analysis reported PCB levels in excess of 10,000 ppm PCB. The transformer was situated on the original concrete pad which still exists at this location. The transformer had leaked oil prior to its removal from service. EG&G is proposing the following actions for this site:

- 1 Perform a hazardous waste determination to ensure no RCRA hazardous constituents are present above regulatory levels.
- 2 Perform sampling and analysis to determine the extent of PCB contamination in the soils if any. This will include actual concentration levels by use of EPA method 8080 for sampling and analysis, and will determine the boundaries for the contamination area. A sampling and analysis plan will be developed and actual sampling and analysis will use the Midwest Research Institute (MRI) documents "Field Manual for Grid Sampling of PCB Spill Sites to Verify Cleanup" and "Verification of PCB Spill Cleanup by Sampling and Analysis". This activity and the hazardous waste determination activity can be completed at the beginning of Fiscal Year 1995 (FY 95, October). The sampling of this area will concentrate on the original concrete pad area in layout of the sampling grid.
- 3 The remediation of this site is dependent on the samples analysis to be performed. While the original data indicates PCBs below 2 ppm, the samples were taken primarily around the new concrete pad. If the additional analysis indicates high levels of PCB, this site could begin cleanup immediately. The boundaries of PCB contamination will also be determined by the sampling.
- 4 Remediation of PAC 400-800 (if necessary) will include removal of the old concrete pad if PCB contamination is found, and excavation of soils until PCB levels are < 10 ppm PCB. This level is consistent with the Superfund guidance for PCB remediation in industrial areas. The Superfund level is proposed assuming PCB contamination is found, and because the area should generate small volumes of waste. Additionally, this is an area where future unrestricted access is possible therefore, cleanup to levels where no long term management controls are necessary is preferred.

Cleanup (if necessary) will generate soil, concrete, lab waste, and Personnel Protective Equipment (PPE). Most of the waste generated (soils small pieces of concrete) could be bulk shipped for disposal either by incineration, or landfill in a TSCA permitted incinerator or landfill. Those wastes which cannot be shipped bulk would be containerized and shipped for incineration or landfill in a TSCA permitted incinerator or landfill. All wastes generated from this site are to meet the requirements of the No Rad Added (NRA) program. Cleanup of this site could begin and be completed in FY95 due to relatively easy access to the site, and few electrical utilities present.

PAC 500-900

This site is located on the south side of a substation 515-516 which is inside the Protected Area (PA). The substation transformer is very large and sits just south of the substation building. The transformer sits on a concrete pad with no berm, and is active. The transformer was installed in 1969, retrofilled in 1986, and tested for PCB in January 1987 and again in 1992. The 1987 test results after retrofit were well below 50 ppm PCB, and the 1992 test results were <1ppm PCB. It is not known if the transformer had leaked prior to retrofitting in 1986. Several soil samples were taken in 1991 resulted in PCB concentration levels up to 26 ppm PCB. Isotopic analysis was also performed in 1991 to determine radioactivity by isotope. Based on these results and the location of the substation inside the PA any waste generated at this time will have to be managed as PCB and radioactively contaminated. EG&G is recommending deferring remediation of this site for the following reasons:

- 1 The exposure potential to people and the environment is very low. This site is a restricted substation within a restricted security area. It contains high voltage, a switch building, and two large transformers on each side of the building. Remediation would be very complex due to the forementioned physical properties.
- 2 Waste generated would need to be managed as PCB and radioactively contaminated. Deferring remediation to a later date may allow for the development of

treatment options non radioactive waste determinations and disposal options for radioactive/PCB wastes as described earlier in this document

- 3 Representative PCB and isotopic analysis is currently available PCB sampling and analysis would need to be performed prior to remediation to determine actual boundaries for remediation

PAC 500-901

This site is located north of Central Avenue and west of the 750 parking lot This is a substation (555 558) area and the PAC site (500 901) includes a transformer (555) which sits to the south side of the substation The transformer was tested in 1985 for PCB resulting in PCB concentration levels just over 50 ppm The transformer was retrofilled in 1986, retested in December 1986 and again in January 1987 The highest concentration level from both 1986 and 1987 post retrofill analysis was 3 4 ppm PCB The transformer was tested again in 1992 and the PCB levels were still at 3 ppm PCB There is no evidence that this transformer has ever leaked Soil samples surrounding the transformer were taken in 1991 Only one of the samples was above the detection limit at a concentration of 3 7 ppm PCB Based on the above information EG&G is recommending no further action for this site

PAC 500-905

This site is located on the north side of the 555 558 substation and houses the 558 transformer The transformer was sampled in 1985 for PCB content The total PCB content at that time was 18 ppm PCB Retesting was conducted again in 1992 with a total PCB content of 21 ppm PCB According to records, this transformer was not retrofilled as part of the 1986/1987 site wide retrofill program and it is not known if the transformer was retrofilled prior to 1985 It appears that the transformer leaked at some point in time by the staining around a valve

Soils taken in 1991 indicate one area of significant PCB contamination with PCB levels reported at 480 ppm PCB In 1992, extensive subsurface soil sampling ranging from 8 30 inches below the surface was performed All samples were reported at < 1ppm PCB

Recommendations for this site are as follows

- 1 Perform hazardous waste determinations for the site
- 2 Perform sampling and analysis to determine the extent of PCB contamination in the soils at the surface This will include actual concentration levels by use of EPA method 8080 for sampling and analysis, and will determine the boundaries for the contamination area A sampling and analysis plan will be developed and actual sampling and analysis will use the Midwest Research Institute (MRI) documents 'Field Manual for Grid Sampling of PCB Spill Sites to Verify Cleanup' and "Verification of PCB Spill Cleanup by Sampling and Analysis" This activity and the hazardous waste determination activity can be completed at the beginning of Fiscal Year 1995 (FY 95 October)
- 3 Determine remediation based on the above sampling results The current characterization of the site indicates only one small area where PCB contamination is present Utilities personnel had indicated that in some cases the equipment used to service the transformers may be the cause of soil contamination which may explain why only one small area around the transformer is PCB contaminated If this is the case the remediation would be as simple as manually removing and containerizing the soils for disposal

If the sample analysis results indicate a larger area of contamination then the remediation may involve the removal of the electrical equipment concrete and soils by a subcontractor This could be accomplished in relatively short order due to the fact that most of the planning to remove the existing transformer and replace it with a

new one is already in place Existing planning documents indicate this project could begin as early as January 1995

Waste generation from this area can be characterized as non-radioactive and should meet the No Rad Added criteria for disposal Small volume generation as described in the first scenario would involve approximately 10 drums for shipment and disposal Large volume waste generation would be managed as a combination of bulk shipment for disposal of soils and small pieces of concrete, and containerized waste such as conduit, larger pieces of concrete, and PPE for shipment and disposal Disposal for higher levels of PCB contamination would be incineration, and chemical landfill for very low concentration levels of PCB contaminated soils and concrete (<10 ppm PCB)

PAC 600-1000

This site is a storage yard for Building 662 The area has been used for plant services storage of equipment including transformers The site is easily accessible Currently, there is no analytical data to characterize this site, and no history of PCB releases at the site

EG&G is recommending that the site be characterized by sampling and analysis to determine if any PCB contamination is present With no particular point of potential contamination, sampling would most likely be random throughout the area Further investigation of the site would be warranted if sample analysis shows PCB contamination

PAC 600-1002

This site is located directly west of Building 666 The site is a concrete pad which was used to store transformers Utilities personnel have indicated that numerous spills have occurred at this site in the past The soils surrounding the concrete pad were sampled for PCBs in 1991 with all samples reporting PCB concentrations of < 2 ppm PCB The concrete pad has not been sampled Additionally, isotopic analysis indicates the presence of radioactivity at levels which would currently have to be managed as low level radioactive if the soils were excavated.

Currently there are several cargo containers which are located on the concrete pad. The cargo containers act as an extension of Building 666 The building and the cargo containers are approved for PCB storage Currently, several containers of radioactive PCB wastes are stored in this area.

Recommendations for this site are as follows

- 1 Defer any actions until such time as the radioactive PCB waste containers can be shipped for disposal and the cargo containers removed from the concrete pad The available sample analysis indicates the soils are only contaminated with very low levels of radioactive isotopes and not PCBs. If any PCB contamination is present, it would be on the concrete pad itself from storage of transformers which may have leaked. If PCBs are present, they are virtually contained within the concrete, immobile and present minimal exposure potential to people and environment.

PAC 600-1003

This site is located south of Central Avenue and directly across the street from the 555-558 substation The area is a substation which contains the switchgear building and two large transformers on the north and south ends of the building

Transformer 675 is situated on the north side of the substation on a concrete pad There are no berms or drains in the area. Rockfill is used in the area around the pad. The valve on the north side of the transformer shows evidence of a leak at some time The transformer was tested for PCB in 1985 with a total concentration of 5 ppm PCB The transformer was tested again in 1992 for PCB and found to have 5 ppm PCB again There are no records which indicate that this transformer was retrofilled as part of the 1986/1987 retrofill program It is not known if the transformer was retrofilled prior to the 1985 analysis Soil samples were taken around the pad

area in 1991. One sample tested at 61 ppm PCB. Isotopic analysis performed during the same timeframe indicate levels of radioactivity where the excavation of soils would have to be managed as low level PCB contaminated wastes.

Transformer 675 South is on the opposite end of substation 661. It is also situated on a concrete pad with no berming. Utilities personnel have indicated that this transformer may have leaked prior to sampling in 1985. The 1985 sample analysis reports PCB concentration at 12 ppm PCB. Retesting in 1992 reports PCBs at 11 ppm. Soil analysis in 1991 indicates levels from 2-4 ppm PCB.

Recommendations for this site are as follows:

1. Perform hazardous waste determinations for the entire substation area to determine if any RCRA constituents are present,
2. Perform sampling and analysis to determine the extent of PCB contamination in the soils at the surface. This will include actual concentration levels by use of EPA method 8080 for sampling and analysis and will determine the boundaries for the contamination area. A sampling and analysis plan will be developed and actual sampling and analysis will use the Midwest Research Institute (MRI) documents. Field Manual for Grid Sampling of PCB Spill Sites to Verify Cleanup and Verification of PCB Spill Cleanup by Sampling and Analysis. This activity and the hazardous waste determination activity can be completed during Fiscal Year 1995 (FY 95).
3. Determine cleanup levels based on the above analysis and timeframe for actual remediation. At this time, due to the levels of radioactivity present in the soils, the soils do not meet the criteria for shipment and disposal under the EG&G No Radioactivity Added (NRA) program. However, future plans for the development of the NRA program include conclusive methods of determining non-radioactivity by risk assessment methodologies, and establishing background numbers for radioactive isotopes. These actions for the NRA program are planned for 1995.

The timeframe for remediation should be deferred to 1996 or 1997. Generated wastes from this site at this time would have to be managed as PCB and radioactively contaminated. Deferring cleanup until 1996/1997 would allow for the NRA program to develop new criteria which may allow these soils to be characterized as non-radioactive. Radioactive PCB waste disposal may also become available by 1996/1997. PCB treatment options are also being developed for RFETS wastes as part of the Compliance Agreement for radioactive PCB wastes. Treatment options could include the treatment of the PCB component of these wastes rendering the waste form as only low level radioactive and disposable at the Nevada Test Site or Hanford Site.

PAC 700-1104

This site is located west of Building 708 within the PA. The transformers which were located at this site have been removed. The site consists of four concrete pads with berms around three of the pads. Extensive soil analysis was performed for this site in 1991 with PCBs found at levels as high as 860 ppm. Also isotopic analysis was performed resulting in very low readings for most isotopes. Access to this site is somewhat difficult because it is inside the PA and relatively close to Building 708.

Recommendations for this site are as follows:

1. Perform hazardous waste determinations for the entire substation area to determine if any RCRA constituents are present.
2. Perform sampling and analysis to determine the extent of PCB contamination in the soils at the surface. This will include actual concentration levels by use of EPA method 8080 for sampling and analysis and will determine the boundaries for the

contamination area. A sampling and analysis plan will be developed and actual sampling and analysis will use the Midwest Research Institute (MRI) documents "Field Manual for Grid Sampling of PCB Spill Sites to Verify Cleanup" and "Verification of PCB Spill Cleanup by Sampling and Analysis". This activity and the hazardous waste determination activity can be completed during Fiscal Year 1995 (FY 95)

- 3 Remediation of this site could take place in late 1995 or early 1996. The fact that the electrical utilities have been removed allows for easier planning and funding. The size of this site and the known high levels of PCB will increase the volume of waste generated significantly. Additionally, the fact that the wastes generated will be within the PA make shipping for disposal impossible at this time. However, in anticipation of the continued development of the NRA program, and due to the low isotopic readings, it is possible that these wastes could be approved for shipment for disposal in the timeframe specified for remediation.

PAC 700-1105

This site is located north of Building 779 within the PA. Transformer 779-1 and 779-2 are present and active at this location. Both transformers were relocated to their present location from a location several feet southwest from the current location. The entire site including both the new and old transformer locations is surrounded by a concrete berm and filled with rock. Both transformers are labeled non-PCB.

The soils around this site were tested 1991 for PCBs. Analytical results indicate significant amounts of PCBs (up to 680 ppm) in the soils. Isotopic analysis also indicates radioactivity higher than most of the other sites.

Recommendations for this site are as follows:

- 1 Defer cleanup of this site as one of the last sites to be remediated. The PA location, proximity to Buildings, and PCB and radioactive contamination will make this one of the more complex sites to remediate. The existing analytical characterization is sufficient until remediation begins at which time field analysis will be conducted to determine boundaries. Exposure to people and environment are minimized until remediation begins with added physical barriers and administrative controls.

PAC 700-1111

This site is directly north of Building 750. The site contains a small transformer which is labeled non-PCB. The transformer was relocated sometime in 1987 from its original location several feet to the west of its current location. Soil samples taken in 1991 indicate PCB concentration levels up to 160 ppm surrounding the old concrete pad.

Recommendations for this site are as follows:

- 1 Perform hazardous waste determinations for the entire substation area to determine if any RCRA constituents are present,
- 2 Perform sampling and analysis to determine the extent of PCB contamination in the soils at the surface. This will include actual concentration levels by use of EPA method 8080 for sampling and analysis, and will determine the boundaries for the contamination area. A sampling and analysis plan will be developed and actual sampling and analysis will use the Midwest Research Institute (MRI) documents "Field Manual for Grid Sampling of PCB Spill Sites to Verify Cleanup" and "Verification of PCB Spill Cleanup by Sampling and Analysis". This activity and the hazardous waste determination activity can be completed during Fiscal Year 1995 (FY 95).
- 3 This is another site within the PA where remediation could take place in late 1995 or early 1996. In anticipation of the continued development of the NRA program and

due to the low isotopic readings it is possible that these wastes could be approved for shipment for disposal in the timeframe specified for remediation

PAC 700-1112

This site is directly south of Building 771 and houses transformer 714-1. The transformer sits on a concrete pad. The transformer area is bermed and filled with gravel. There is no evidence historical or visual that this transformer has ever leaked. Soil samples from 1991 also indicate that no PCB contamination is present.

EG&G recommends sampling and analysis to determine the extent of PCB contamination in the soils. This will include actual concentration levels by use of EPA method 8080 for sampling and analysis and will determine the boundaries for the contamination area. A sampling and analysis plan will be developed and actual sampling and analysis will use the Midwest Research Institute (MRI) documents "Field Manual for Grid Sampling of PCB Spill Sites to Verify Cleanup" and "Verification of PCB Spill Cleanup by Sampling and Analysis". It is anticipated that the analysis for this site will be consistent with that from 1991, at which time the site can be dispositioned as No Further Action.

PAC 800-1207

This site is located on the southeast side of Building 883. The transformer which used to be housed on this site has been moved to a new location several feet to the west of the original location. The transformer history indicates the transformer was retrofilled and that leaks did occur prior to retrofilling. The latest PCB test data (1992) reports the transformer at <1 ppm PCB.

After the transformer was moved, the old concrete pad was scarified. Currently, the existing concrete pad and berm are decomposing. Soil samples were taken surrounding the berm and pad in 1991. The results show PCB contamination up to 160 ppm PCB. The isotopic analysis of the same area is very low.

Recommendations for this site are

- 1 Perform hazardous waste determinations for the entire substation area to determine if any RCRA constituents are present,
- 2 Perform sampling and analysis to determine the extent of PCB contamination in the soils at the surface. This will include actual concentration levels by use of EPA method 8080 for sampling and analysis and will determine the boundaries for the contamination area. A sampling and analysis plan will be developed and actual sampling and analysis will use the Midwest Research Institute (MRI) documents "Field Manual for Grid Sampling of PCB Spill Sites to Verify Cleanup" and "Verification of PCB Spill Cleanup by Sampling and Analysis". This activity and the hazardous waste determination activity can be completed during Fiscal Year 1995 (FY 95).
- 3 Remediation of this site could take place in late 1995 or early 1996. The fact that the electrical utilities have been removed allows for easier planning and funding. In anticipation of the continued development of the NRA program and due to the low isotopic readings, it is possible that these wastes could be approved for shipment for disposal in the timeframe specified for remediation.

PAC 800-1208

This site is located on the northeast side of Building 881. The area contains a small transformer on a small concrete pad surrounded by a berm. It is believed that the transformer leaked prior to being retrofilled in 1986. The 1985 service record shows PCB concentrations of up to 110 ppm PCB. Post retrofill sampling and analysis in January 1987 report 8.4 ppm PCB and 1992 analysis reports 6 ppm PCB. All soil samples taken in 1991 indicate the presence of PCB but the concentration levels are all < 5 ppm PCB. Isotopic analysis for the same area indicated very low levels of radioactivity.

Recommendations for this area are as follows

- 1 Although this transformer most likely leaked prior to retriill, the soil analysis indicates the releases from the transformer did not reach the soils. Complete characterization of this site is necessary to determine final actions. It is anticipated that sampling and analysis of this site will allow for a No Further Action determination to be made

PAC 800-1209

This is a relatively large site on the south north side of Building 883. The site houses three transformers and a switch gear, all of which is fenced and bermed. Utilities personnel have indicated that all of the transformers and the switch gear may have leaked oil prior to being retrofilled in 1986. The 1992 sample analysis for all three transformers reports PCB levels of 2 ppm, 16 ppm and 35 ppm PCB. The 1991 soil analysis reports contamination from 4-6 ppm PCB, and high enough levels of radioactivity from isotopic analysis where the generated wastes would have to be managed as low level.

Recommendations for this site are as follows

- 1 Perform hazardous waste determinations for the entire substation area to determine if any RCRA constituents are present,
2. Perform sampling and analysis to determine the extent of PCB contamination in the soils at the surface. This will include actual concentration levels by use of EPA method 8080 for sampling and analysis, and will determine the boundaries for the contamination area. A sampling and analysis plan will be developed and actual sampling and analysis will use the Midwest Research Institute (MRI) documents "Field Manual for Grid Sampling of PCB Spill Sites to Verify Cleanup" and "Verification of PCB Spill Cleanup by Sampling and Analysis". This activity and the hazardous waste determination activity can be completed during Fiscal Year 1995 (FY 95).
- 3 Resample the two transformers with PCB concentration levels of 16 and 35 ppm PCB. The history of analysis for these transformers indicates ppm levels are a little higher with each analysis.
- 4 The timeframe for remediation of this site should be deferred to 1996 or 1997. Generated wastes from this site would have to be managed as PCB and radioactively contaminated. Deferring cleanup until 1996/1997 would allow for the NFA program to develop new criteria which may allow these soils to be characterized as non-radioactive. Radioactive PCB waste disposal may also become available by 1996/1997. PCB treatment options are also being developed for RFETS wastes as part of the Compliance Agreement for radioactive PCB wastes. Treatment options could include the treatment of the PCB component of these wastes rendering the waste form as only low level radioactive, and disposable at the Nevada Test Site or Hanford Site.

PAC 900-1306

This site is located east of Building 991 and contains two transformers on concrete pads, surrounded by berms and fencing. Both transformers were documented as leaking prior to retrofill in 1986. Testing of the transformers in 1985 reported levels of 114 and 60 ppm PCB. Post retrofill sampling reported PCB levels of 3.6 and 1.5 ppm PCB, and 1992 retests reported PCB levels at 4 ppm and 1 ppm. Soil samples taken in 1991 were all <1 ppm PCB and isotopic analysis also reported minimal levels of radioactivity.

Recommendations for this site are as follows.

- 1 Based on the 1991 soil samples, no contamination seems to be present in the soils. Verification sampling and analysis needs to be performed to confirm no further action for this area.

PIC 41

This is the site of transformer 771 1 and has been remediated No Further Action required for PIC 41

5 0 ORGANIZATIONAL RESPONSIBILITIES

- 5 1 The TSCA Program Administrator within Waste Regulatory Programs (WRP) will facilitate the activities for each cleanup site WRP will not provide funding for actual cleanup activities WRP will determine onsite waste management, waste disposal methods, funding for Verification sampling and analysis input to sampling and analysis plans priority determinations and sub-contractor determinations WRP will also act as the interface with DOE RFFO and EPA Region VIII
- 5 2 Environmental Restoration Management (ERM) Accelerated Cleanup will provide planning efforts for site remediation and technical and laboratory support in the development of sample methods and cleanup criteria specific to each site Additionally the Sample Management Office will continue to make available EG&G/DOE approved laboratories for final cleanup verification analysis on a site by site basis
- 5 3 Economic Development (formerly Facility Management and Operations) will determine ownership of each site by Operations Manager Economic Development will also provide historical input to each site and input to priority determinations
- 5 4 Construction Management will provide the coordination and planning (IWCP) for construction and cleanup activities Construction Management will also have input to priority determinations and scheduling of activities Construction Management will assist in procurement of subcontractors and provides the final assembly of contract documents Construction Management provides contract changes as necessary and general oversight to the subcontractor
- 5 5 FPM and Engineering responsibilities have not been determined at this time The involvement of these organizations will be determined specific to each site
- 5 6 The General Laboratories in Building 881 will be utilized for sampling and analysis whenever practicable Off-site subcontract labs will be used if the 881 General Labs cannot support a PCB site remediation

6 0 FUNDING

- 6 1 Phase 1 Investigation funding for FY94 is provided in Work Package 32201 Phase 1 is complete with this report
- 6 2 Phase 2 funding for remediation has not been allocated At this time, the Accelerated Cleanup group within Environmental Restoration Management may fund for the actual remediations WRP is planning to fund for verification sampling and analysis

70 SUMMARY CHART

SUMMARY CHART FOR PCB CONTAMINATED PAC SITES

Pac No	Location	PCB levels	Radioactive	Category
100-607	Bldg, 111 basement	< 10ug/100cm ²	No	No Further Action
100-608	Bldg 131 outside	None	No	No Further Action
300 708	North of Bldg 371	> 50 ppm	Low level	FY95 Sampling
300 709	Bldg 334 outside	< 1 ppm	No	No Further Action
400 800	North of Bldg 443	questionable	No	FY95 sampling and 1st cleanup if nec
500 900	515-516 Substation	26 ppm	Low level	Defer to FY96/97
500 901	555-558 Sub south	<4 ppm	No	No Further Action
500 905	555-558 sub north	480 ppm	No	FY95 sampling and 2nd. site cleanup
600 1000	662 storage yard	Unknown	Unknown	FY95 sampling nec.
600-1002	666 storage area	< 2 ppm	Low level	Defer to later date
600 1003	661 substation north	4 ppm	Low level	FY95 sample/Defer
700-1104	West of Bldg 708	860 ppm	Low level	FY95 sampling, FY96/97 cleanup
700 1105	North of Bldg 779	680 ppm	Low level	Defer to later date
700-1111	North of Bldg 750	160 ppm	Low level	FY95 sampling, FY96/97 cleanup
700 1112	South of Bldg 771	No detection	Low level	No Further Action
800-1207	South of Bldg 883	160 ppm	Low level	FY95 sampling, could be 3rd cleanup
800-1208	North of Bldg. 881	< 5 ppm	Low level	FY95 sampling to determine NFA
800 1209	North of Bldg. 883	6 ppm	Low level	FY95 sampling, FY96/97 cleanup
900-1306	East of Bldg 991	< 1 ppm	Low level	FY95 sampling to determine NFA
PIC 41	771 outside	remediated	Low level	No Further Action

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